

CLAIMS PREVIOUSLY SUBMITTED WITH
AMENDMENT 116 FILED ON OCTOBER 26, 2004.

COMPLETE LIST OF CLAIMS

1 1. (currently amended) Apparatus for locating an RFID transponder vertical
2 location comprising:
3 ~~an~~ a passive RFID transponder for broadcasting identification data;
4 a plurality of antenna for receiving said identification data broadcast by said
5 RFID transponder, said identification data from said RFID transponder capable of being
6 received by more than one antenna at different location sites;
7 a plurality of support members at spaced apart vertical locations suitable for
8 supporting said RFID transponder, and each of said spaced apart support members
9 associated with at least one of said plurality of antenna; and
10 control circuitry connected to said plurality of antenna for determining which
11 individual antenna at different location sites of said plurality of antenna receives said
12 identification broadcast from said RFID transponder and for determining the location of
13 said RFID transponder as a function of all of the antenna receiving said broadcast data
14 and the support members associated with the antennae receiving said identification
15 data.

1 2. (original) The apparatus of claim 1 wherein at least two transponders
2 broadcast separate identification data.

1 3. (original) The apparatus of claim 1 wherein said antenna or loop antennas
2 and the plane of the loop of the antenna is substantially coplanar with said support
3 member.

1 4. (original) The apparatus of claim 1 wherein each of said support members
2 includes at least two antennae located side by side, and wherein both the vertical and
3 horizontal location of the transponder is determined.

1 5. (original) The apparatus off claim 1 wherein said RFID transponders are
2 attached to a product or package.

1 6. (original) The apparatus of claim 1 further comprising a multiplicity of
2 products or packages and a multiplicity of RFID transponders, each transponder for
3 broadcasting different identification data, and at least one each associated with said
4 multiplicity of products or packages.

1 7. (original) The apparatus of claim 1 wherein said support members at known
2 vertical locations are a plurality of shelves stacked vertically.

1 8. (original) The apparatus of claim 7 wherein each of said shelves has two or
2 more horizontal locations for supporting products or packages to which a transponder is
3 attached, each shelf has an antenna corresponding to said each of said horizontal
4 locations, and wherein both the vertical and horizontal location of the transponder is
5 determined.

1 9. (original) The apparatus of claim 1 and further including a multiplexer
2 connected between said control circuitry and said plurality of antennas for selecting a
3 pair of adjacent antennas.

1 10. (original) The apparatus of claim 1 wherein said RFID transponder stores
2 power transmitted by one or more of said antennas for use to provide said transmitted
3 identification data.

1 11. (original) The apparatus of claim 1 and further comprising computer circuitry
2 for averaging the vertical location of antennae reading said transponder.

1 12. (currently amended) A method of locating an RFID transponder in space
2 comprising the steps of:
3 broadcasting identification data from ~~an~~ a passive RFID transponder;
4 receiving said broadcast identification data at a plurality of antenna at
5 different location sites;
6 providing a plurality of spaced apart support members at known vertical
7 locations suitable for supporting said RFID transponders, and each of said spaced apart
8 support members associated with at least one of said plurality of antenna;

- 8 -

9 determining which antenna at the different location sites receives
10 identification data broadcast from said RFID transponder; and
11 determining the three-dimensional location of said transponder
12 broadcasting said identification data as a function of the antennas receiving said
13 information data and the support members associated with the antennas receiving said
14 identification data.